

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone: +86 (0) 755 2601 2053 Fax: +86 (0) 755 2671 0594 Report No.: SZEM160600421202

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### FCC REPORT

Application No.: SZEM1606004212CR (GZEM1606003551CR)

**Applicant:** SUNVALLEYTEK INTERNATIONAL, INC.

Manufacturer: Shenzhen NearbyExpress Technology Development Company Limited

Factory: Guangzhou Panyu Juda Car Audio Equipment Co., Ltd.

Product Name: SOUND BAR Model No.(EUT): TT-SK15

**Trade Mark:** TAOTRONICS **FCC ID:** 2AFDG-TT-SK15

Standards: 47 CFR Part 15, Subpart C (2015)

**Date of Receipt:** 2016-06-02

**Date of Test:** 2016-06-03 to 2016-07-11

**Date of Issue:** 2016-07-13

Test Result: PASS \*

\* In the configuration tested, the EUT complied with the standards specified above.

#### Authorized Signature:



Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the federal government. All test results in this report can be traceable to National or International Standards.



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### 2 Version

Revision Record							
Version Chapter Date Modifier Remark							
00		2016-07-13		Original			

Authorized for issue by:		
Tested By	(Bill Chen) /Project Engineer	2016-07-11  Date
Prepared By	Iris Zhou (Iris Zhou) /Clerk	2016-07-13  Date
	(III3 ZIIOU) / OICIR	Date
Checked By	Eric Fu	2016-07-13
	(Eric Fu) /Reviewer	Date



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### 3 Test Summary

Test Item	Test Requirement	Test method	Result
Antenna Requirement	47 CFR Part 15, Subpart C Section 15.203/15.247 (c)	ANSI C63.10 (2013)	PASS
AC Power Line Conducted Emission	47 CFR Part 15, Subpart C Section 15.207	ANSI C63.10 (2013)	PASS
Conducted Peak Output Power	47 CFR Part 15, Subpart C Section 15.247 (b)(1)	ANSI C63.10 (2013)	PASS
20dB Occupied Bandwidth	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Carrier Frequencies Separation	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Hopping Channel Number	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Dwell Time	47 CFR Part 15, Subpart C Section 15.247 (a)(1)	ANSI C63.10 (2013)	PASS
Pseudorandom Frequency Hopping Sequence	47 CFR Part 15, Subpart C Section 15.247(b)(4)&TCB Exclusion List (7 July 2002)	ANSI C63.10 (2013)	PASS
Band-edge for RF Conducted Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 (2013)	PASS
RF Conducted Spurious Emissions	47 CFR Part 15, Subpart C Section 15.247(d)	ANSI C63.10 (2013)	PASS
Radiated Spurious emissions	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 (2013)	PASS
Restricted bands around fundamental frequency (Radiated Emission)	47 CFR Part 15, Subpart C Section 15.205/15.209	ANSI C63.10 (2013)	PASS



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#### 5 General Information

#### 5.1 Client Information

Applicant:	SUNVALLEYTEK INTERNATIONAL, INC.				
Address of Applicant:	46724 Lakeview Blvd, Fremont, CA 94538-6529				
Manufacturer:	Shenzhen NearbyExpress Technology Development Company Limited				
Address of Manufacturer:	Block D, Minle Industrial Park, Meiban Road, Longhua District, Shenzhen, China, 518131				
Factory:	Guangzhou Panyu Juda Car Audio Equipment Co., Ltd.				
Address of Factory:	Vtrek Dewei Industrial Garden, Shibei Industrial Road, Dashi Town, Panyu Borough, Guangzhou City, Guangdong Province, China				

#### 5.2 General Description of EUT

Product Name:	SOUND BAR
Model No.:	TT-SK15
Trade Mark:	TAOTRONICS
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	V2.1+EDR
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	Fixed production
Antenna Type:	Integral
Antenna Gain:	0dBi
Power Supply	Input: AC 100-240V 50/60Hz
	DC 1.5V (1 x 1.5V "AAA" Size battery) for remote control
Test Voltage:	AC 120V 60Hz



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Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		

#### Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	2402MHz
The Middle channel	2441MHz
The Highest channel	2480MHz



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#### 5.3 Test Environment

Operating Environment:		
Temperature:	25.0 °C	
Humidity:	55 % RH	
Atmospheric Pressure:	1005 mbar	

#### 5.4 Description of Support Units

The EUT has been tested independent unit.

#### 5.5 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.



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#### 5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

#### FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

#### Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

#### 5.7 Deviation from Standards

None.

#### 5.8 Abnormalities from Standard Conditions

None.

#### 5.9 Other Information Requested by the Customer

None.



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### 5.10 Equipment List

	Conducted Emission								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)			
1	Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2016-05-13	2017-05-13			
2	LISN	Rohde & Schwarz	ENV216	SEM007-01	2015-10-09	2016-10-09			
3	LISN	ETS- LINDGREN	3816/2	SEM007-02	2016-04-25	2017-04-25			
4	8 Line ISN	Fischer Custom Communications Inc.	FCC- TLISN-T8- 02	EMC0120	2015-08-30	2016-08-30			
5	4 Line ISN	Fischer Custom Communications Inc.	FCC- TLISN-T4- 02	EMC0121	2015-08-30	2016-08-30			
6	2 Line ISN	Fischer Custom Communications Inc.	FCC- TLISN-T2- 02	EMC0122	2015-08-30	2016-08-30			
7	EMI Test Receiver	Rohde & Schwarz	ESCI	SEM004-02	2016-04-25	2017-04-25			
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2015-10-09	2016-10-09			

	RF connected test								
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)			
1	DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2015-10-09	2016-10-09			
2	Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2015-10-17	2016-10-17			
3	Signal Generator	Rohde & Schwarz	SML03	SEM006-02	2016-04-25	2017-04-25			
4	Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2015-10-09	2016-10-09			



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	RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2016-05-13	2017-05-13
2	EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2015-09-16	2016-09-16
3	BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2014-11-01	2017-11-01
4	Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEM003-11	2015-10-17	2018-10-17
5	Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEM003-12	2014-11-24	2017-11-24
6	Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2016-04-25	2017-04-25
7	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A
8	DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2015-10-09	2016-10-09
9	Loop Antenna	Beijing Daze	ZN30401	SEM003-09	2015-05-13	2018-05-13

	RE in Chamber					
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
1	3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2016-05-13	2017-05-13
2	EMI Test Receiver	Rohde & Schwarz	ESIB26	SEM004-04	2016-04-25	2017-04-25
3	BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2014-11-15	2017-11-15
4	Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2015-10-09	2016-10-09
5	Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
6	Low Noise Amplifier	Black Diamond Series	BDLNA- 0118- 352810	SEM005-05	2015-10-09	2016-10-09
7	Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A



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#### 6 Test results and Measurement Data

### 6.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

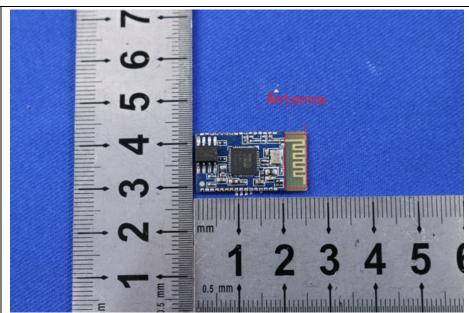
15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### **EUT Antenna:**



The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 0dBi.



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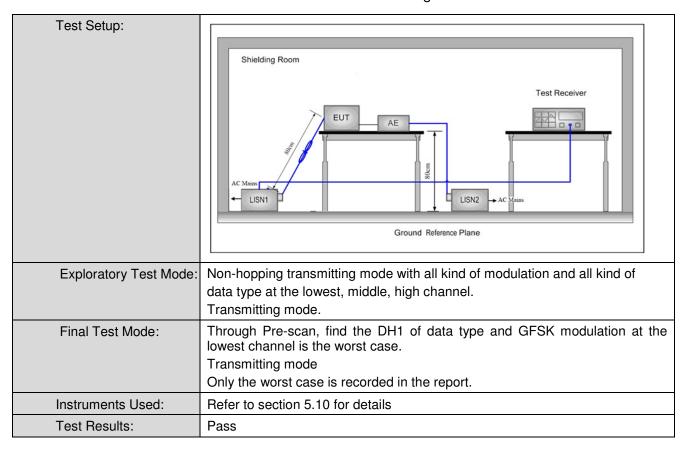
#### 6.2 Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.207			
Test Method:	ANSI C63.10: 2013			
Test Frequency Range:	150kHz to 30MHz			
Limit:	Francisco (MIII-)	Limit (c	dBuV)	
	Frequency range (MHz)	Quasi-peak	Average	
	0.15-0.5	66 to 56*	56 to 46*	
	0.5-5	56	46	
	5-30	60	50	
	* Decreases with the logarithm	n of the frequency.		
Test Procedure:	<ol> <li>The mains terminal disturt room.</li> </ol>	bance voltage test was	s conducted in a shie	elded
	<ol> <li>The mains terminal disturbance voltage test was conducted in a shielder room.</li> <li>The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.</li> <li>The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,</li> <li>The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.</li> <li>In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to</li> </ol>			



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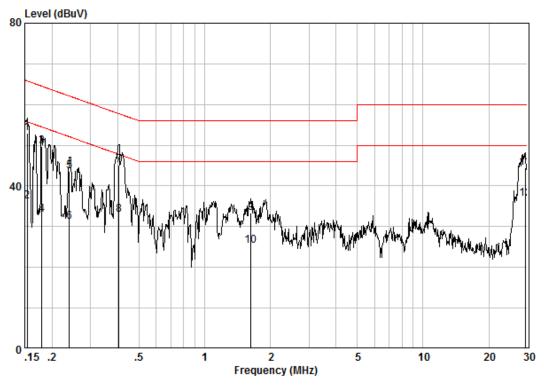
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#### **Measurement Data**

An initial pre-scan was performed on the live and neutral lines with peak detector.

Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

#### Live line:



Site : Shielding Room
Condition : CE LINE
Job No. : 4212CR
Test Mode : TX

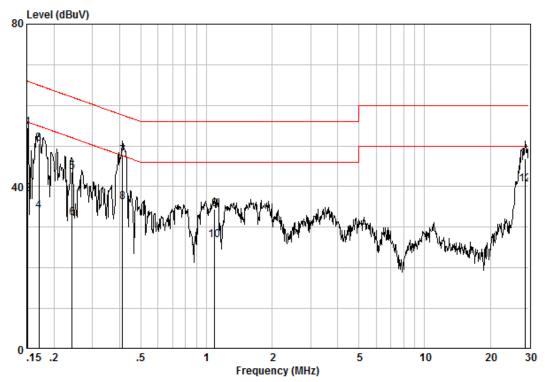
		Cable	LISN	Read		Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15403	0.02	9.59	43.33	52.94	65.78	-12.84	QP
2	0.15403	0.02	9.59	26.56	36.17	55.78	-19.61	AVERAGE
3	0.17961	0.02	9.60	39.98	49.60	64.50	-14.91	QP
4	0.17961	0.02	9.60	23.32	32.94	54.50	-21.57	AVERAGE
5	0.24037	0.02	9.60	33.89	43.50	62.08	-18.58	QP
6	0.24037	0.02	9.60	21.52	31.14	52.08	-20.95	AVERAGE
7	0.40400	0.01	9.60	35.43	45.04	57.77	-12.73	QP
8	0.40400	0.01	9.60	23.32	32.93	47.77	-14.84	AVERAGE
9	1.628	0.02	9.60	23.69	33.31	56.00	-22.69	QP
10	1.628	0.02	9.60	15.65	25.27	46.00	-20.73	AVERAGE
11	29.371	0.03	9.90	34.49	44.42	60.00	-15.58	QP
12	29.371	0.03	9.90	26.89	36.82	50.00	-13.18	AVERAGE



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#### Neutral line:



Site : Shielding Room Condition : CE NEUTRAL Job No. : 4212CR Test Mode : TX

		Cable	LISN	Read		Limit	Over	
	Freq	Loss	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15160	0.02	9.62	44.86	54.50	65.91	-11.42	QP
2	0.15160	0.02	9.62	28.59	38.23	55.91	-17.69	AVERAGE
3	0.17034	0.02	9.60	40.85	50.48	64.94	-14.47	QP
4	0.17034	0.02	9.60	24.33	33.95	54.94	-21.00	AVERAGE
5	0.24165	0.02	9.61	34.02	43.64	62.04	-18.40	QP
6	0.24165	0.02	9.61	22.56	32.19	52.04	-19.85	AVERAGE
7	0.41266	0.01	9.62	37.97	47.60	57.59	-9.99	QP
8	0.41266	0.01	9.62	26.61	36.24	47.59	-11.35	AVERAGE
9	1.088	0.02	9.65	24.79	34.46	56.00	-21.54	QP
10	1.088	0.02	9.65	17.16	26.83	46.00	-19.17	AVERAGE
11	28.908	0.03	10.21	36.67	46.91	60.00	-13.10	QP
12 @	28.908	0.03	10.21	30.24	40.48	50.00	-9.52	AVERAGE

#### Notes:

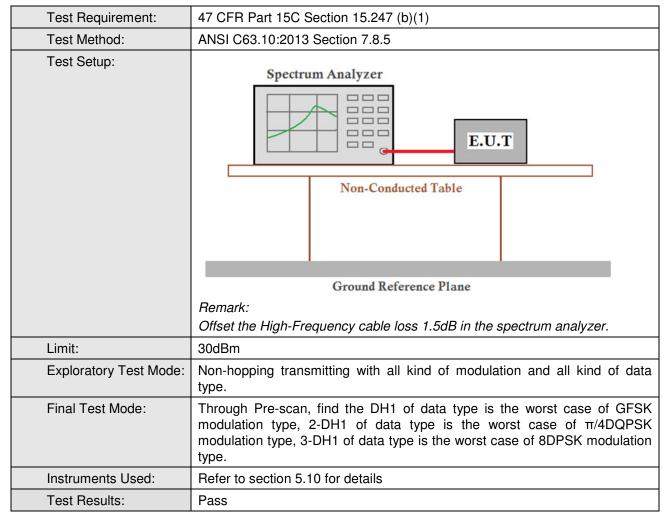
- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.



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### 6.3 Conducted Peak Output Power





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#### **Measurement Data**

Measurement Data						
GFSK mode						
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result			
Lowest	-0.28	30.00	Pass			
Middle	0.17	30.00	Pass			
Highest	-0.21	30.00	Pass			
	π/4DQPSK m	ode				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result			
Lowest	1.14	30.00	Pass			
Middle	1.60	30.00	Pass			
Highest	1.08	30.00	Pass			
	8DPSK mod	de				
Test channel	Peak Output Power (dBm)	Limit (dBm)	Result			
Lowest	1.48	30.00	Pass			
Middle	1.92	30.00	Pass			
Highest	1.38	30.00	Pass			

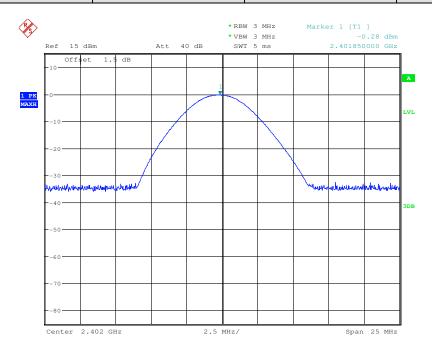


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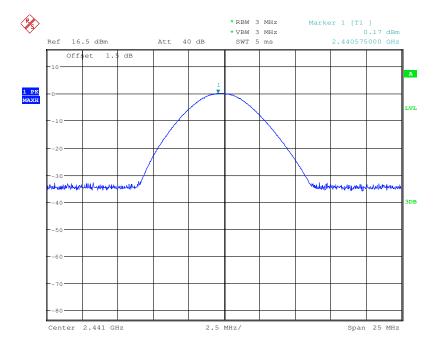
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#### Test plot as follows:

Test mode: GFSK Test channel: Lowest



Test mode: GFSK Test channel: Middle

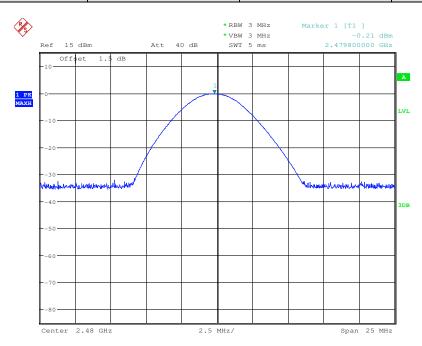


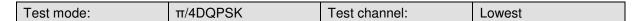


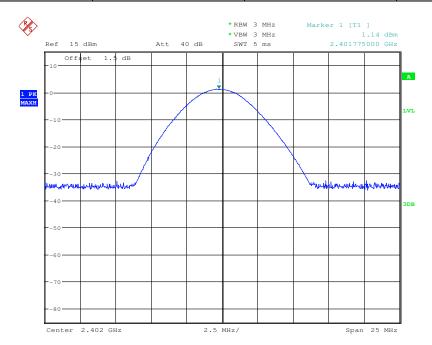
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Test mode: GFSK Test channel: Highest





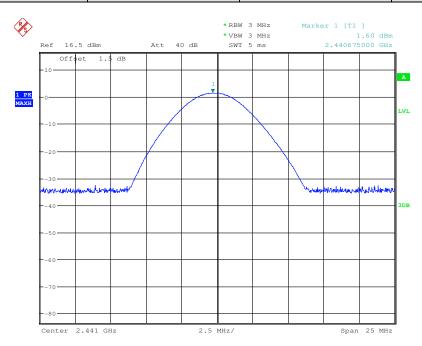




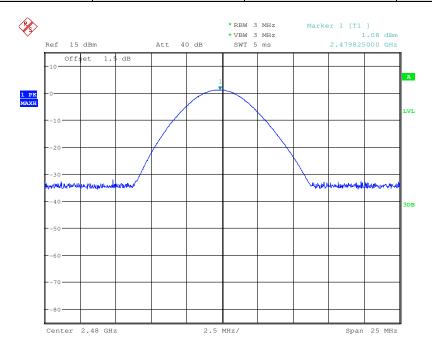
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Test mode: π/4DQPSK Test channel: Middle



Test mode: π/4DQPSK Test channel: Highest

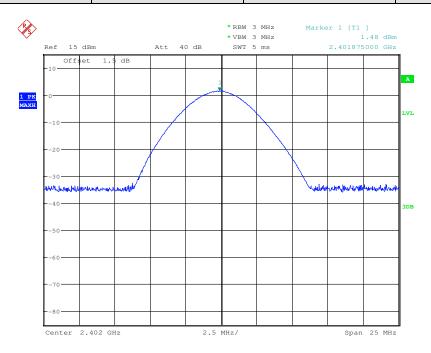




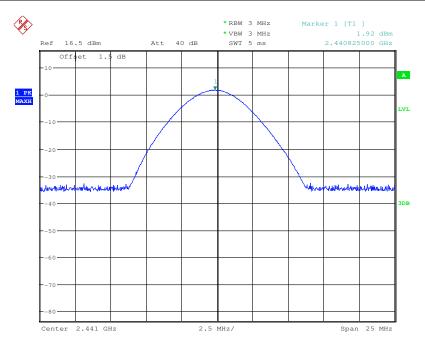
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Test mode: 8DPSK Test channel: Lowest





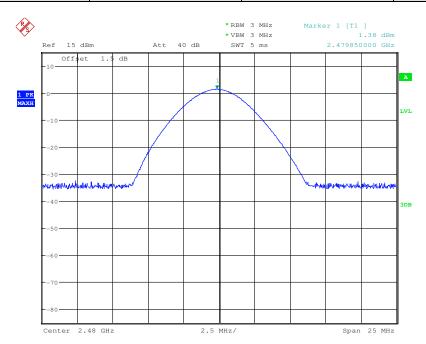




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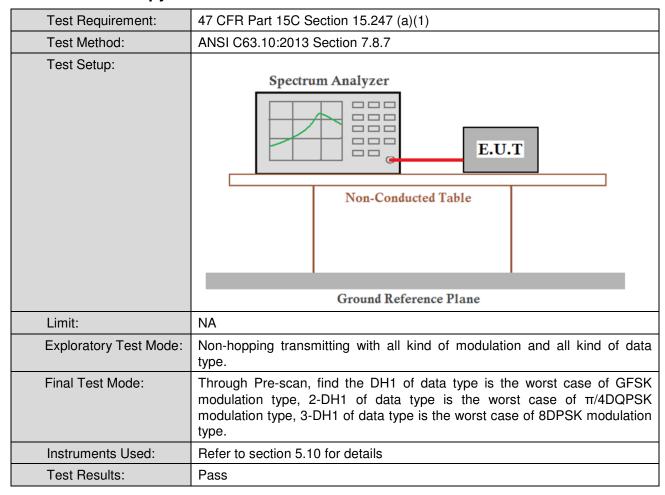




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#### 6.4 20dB Occupy Bandwidth



#### **Measurement Data**

	20dB Occupy Bandwidth (kHz)			
Test channel	GFSK	π/4DQPSK	8DPSK	
Lowest	1056.231	1354.692	1355.770	
Middle	1101.000	1361.885	1346.154	
Highest	1101.000	1359.500	1355.770	

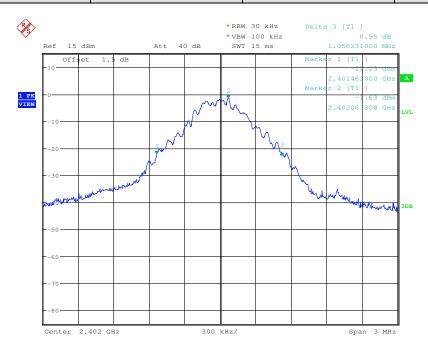


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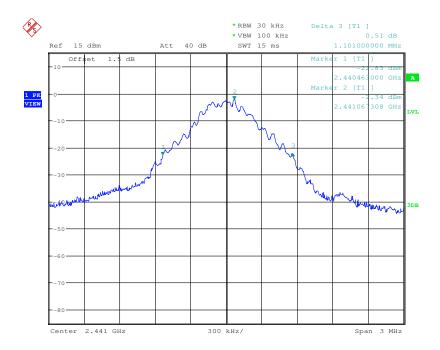
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#### Test plot as follows:

Test mode: GFSK Test channel: Lowest



Test mode: GFSK Test channel: Middle

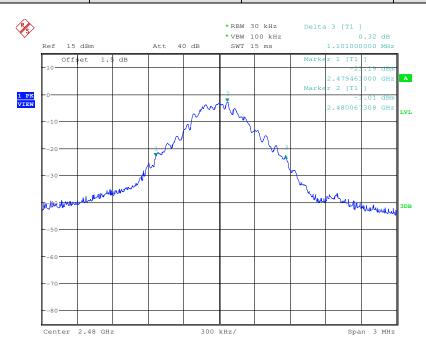




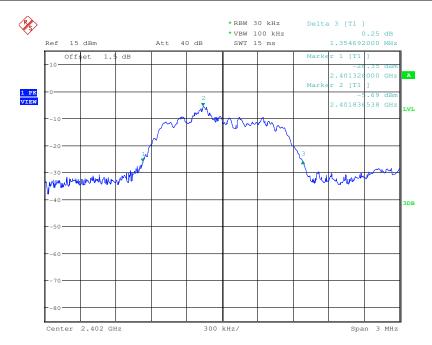
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Test mode: GFSK Test channel: Highest





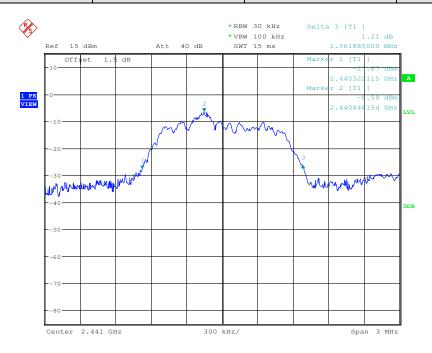




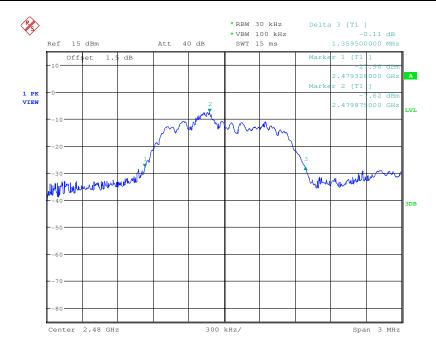
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Test mode: π/4DQPSK Test channel: Middle



Test mode: π/4DQPSK Test channel: Highest

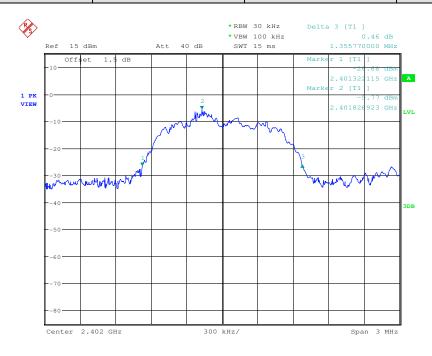




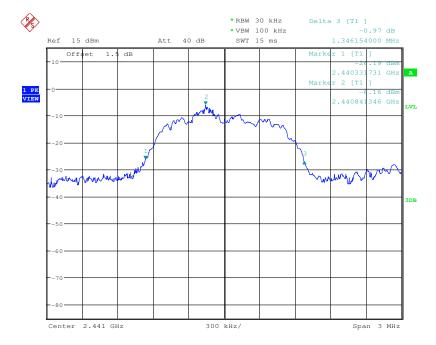
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Test mode: 8DPSK Test channel: Lowest





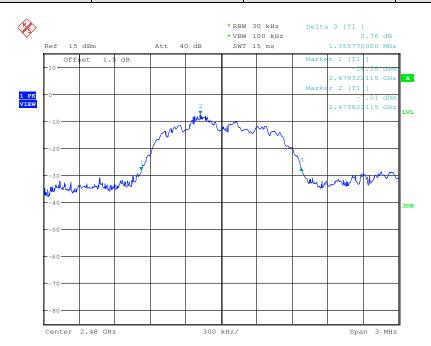




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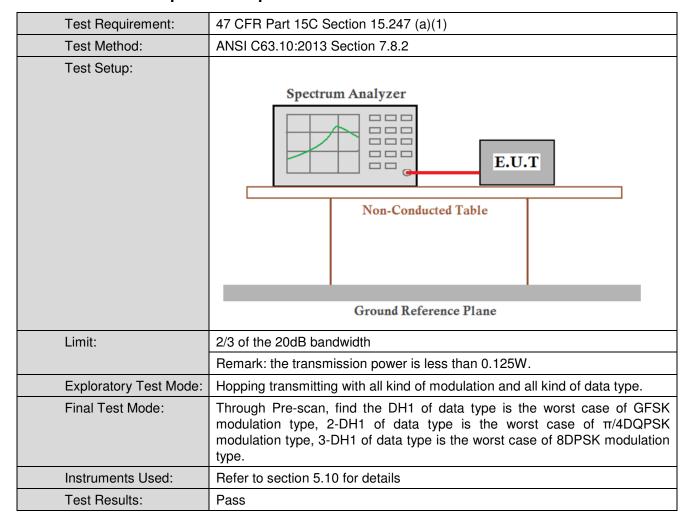




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#### 6.5 Carrier Frequencies Separation





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	GFSK mode					
Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result			
Middle	1002	704.154	Pass			
	π/4DQPSK mode					
Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result			
Middle	996	907.923	Pass			
8DPSK mode						
Test channel	Carrier Frequencies Separation (kHz)	Limit (kHz)	Result			
Middle	993	903.847	Pass			

Note: According to section 6.4,

Mode	20dB bandwidth (kHz)	Limit (kHz)
Wiode	(worse case)	(Carrier Frequencies Separation)
GFSK	1056.231	704.154
π/4DQPSK	1361.885	907.923
8DPSK	1355.770	903.847

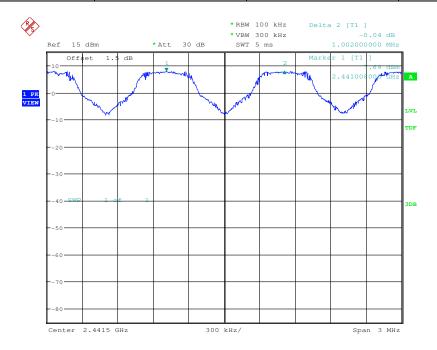


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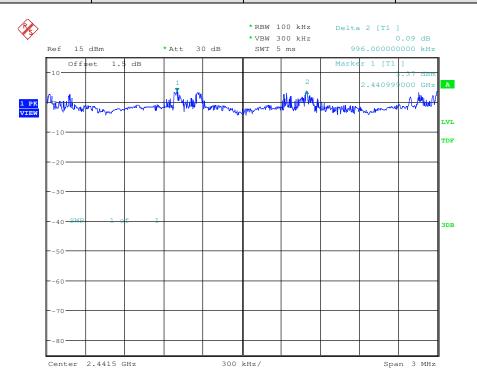
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#### Test plot as follows:

Test mode: GFSK Test channel: Middle





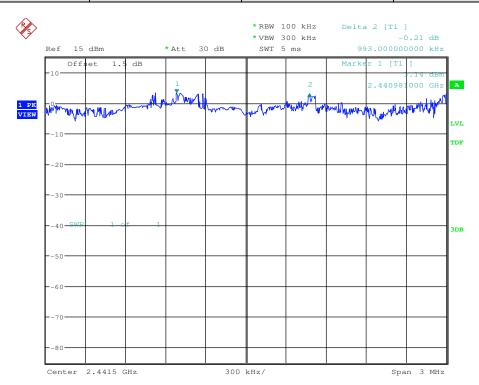




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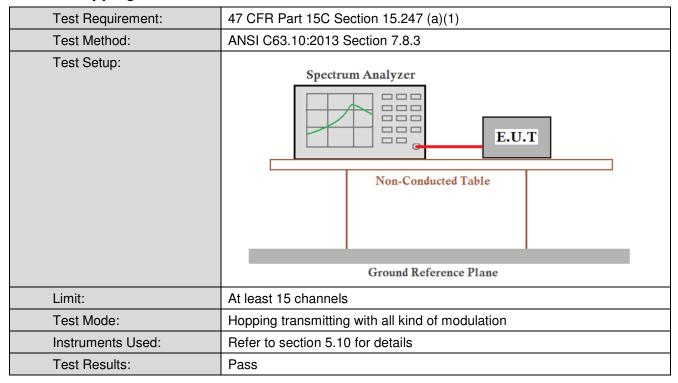




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#### 6.6 Hopping Channel Number



#### **Measurement Data**

Mode	Hopping channel numbers	Limit				
GFSK	79	≥15				
π/4DQPSK	79	≥15				
8DPSK	79	≥15				

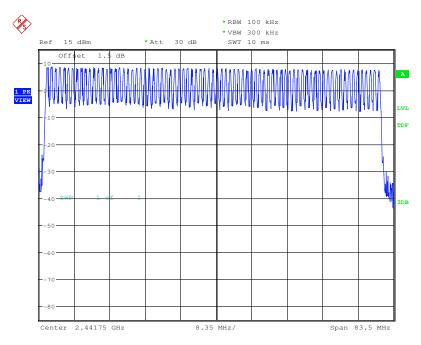


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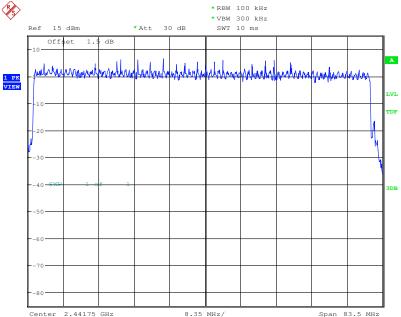
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Test plot as follows





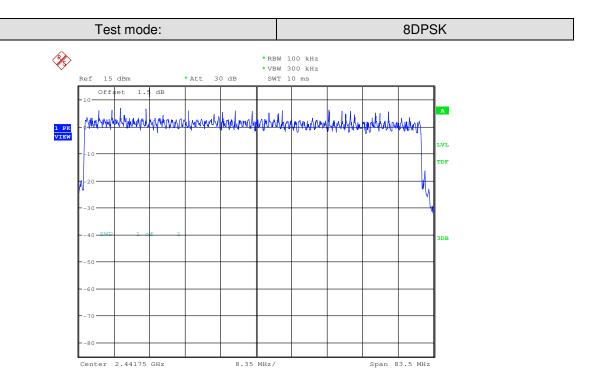






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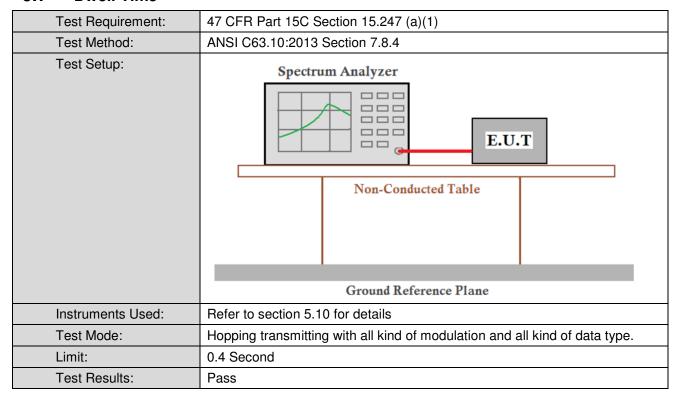




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#### 6.7 Dwell Time



#### **Measurement Data**

Mode	Packet	Dwell time (second)	Limit (second)
	DH1	0.11	≤0.4
GFSK	DH3	0.25	≤0.4
	DH5	0.28	≤0.4
π/4DQPSK	2-DH1	0.16	≤0.4
	2-DH3	0.27	≤0.4
	2-DH5	0.28	≤0.4
	3-DH1	0.12	≤0.4
8DPSK	3-DH3	0.25	≤0.4
	3-DH5	0.28	≤0.4



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#### Remark:

The test period: T= 0.4 Second/Channel x 79 Channel = 31.6 s

On (ms)\*total number=dwell time (ms)

The lowest channel (2441MHz), as below:

DH1 time slot=0.375 (ms)\*total number= 112.50 (ms)

DH3 time slot=1.686 (ms)\* total number = 252.90 (ms)

DH5 time slot=2.824 (ms)\* total number = 282.40 (ms)

2-DH1 time slot=0.545 (ms)\*total number= 163.50 (ms)

2-DH3 time slot=1.668 (ms)\* total number = 266.88 (ms)

2-DH5 time slot=2.808 (ms)\* total number = 280.80 (ms)

3-DH1 time slot=0.392 (ms)\*total number= 117.60 (ms)

3-DH3 time slot= $1.671 \text{ (ms)}^* \text{ total number} = 250.65 \text{ (ms)}$ 

3-DH5 time slot=2.808 (ms)\* total number = 280.80 (ms)

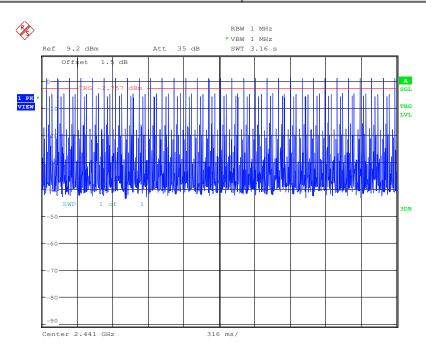


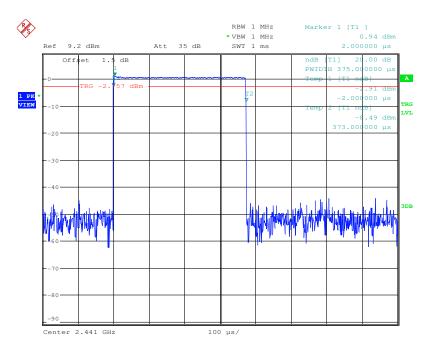
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#### Test plot as follows:





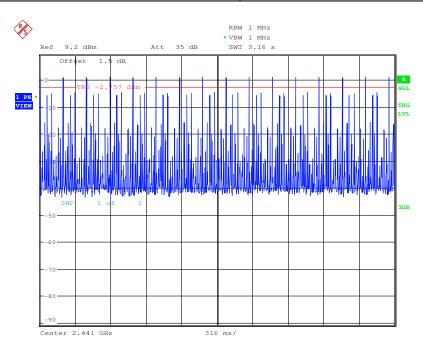


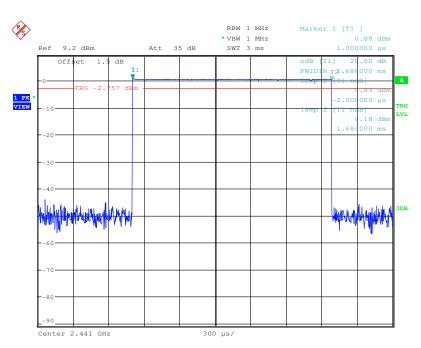


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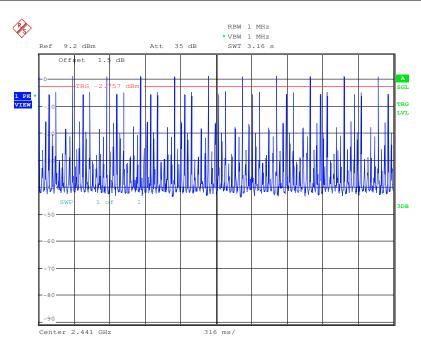


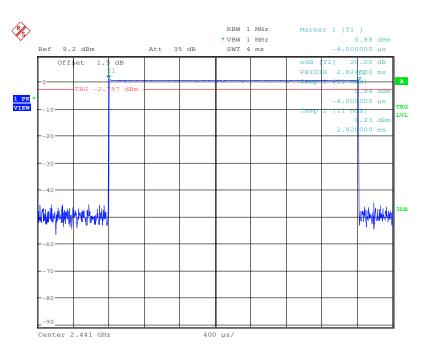


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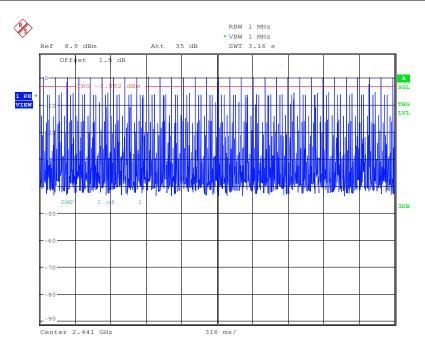


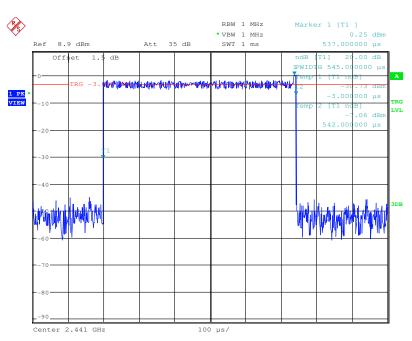


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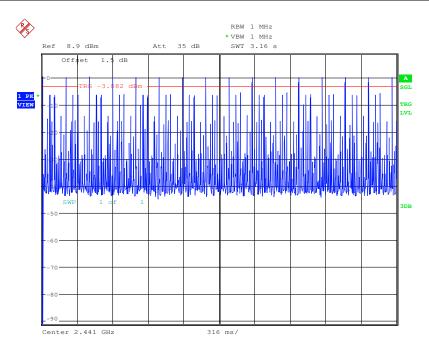


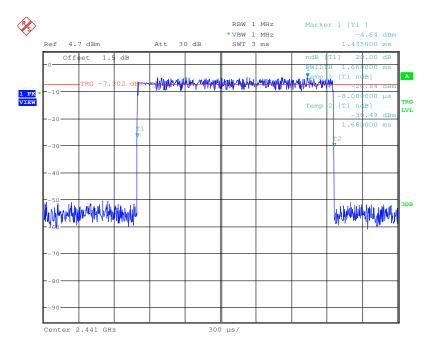


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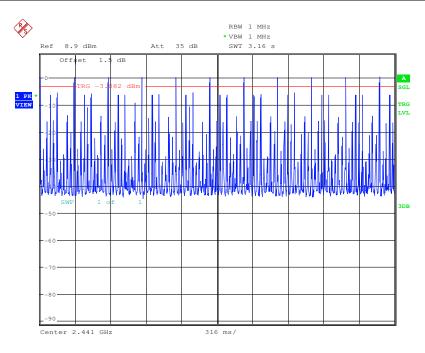


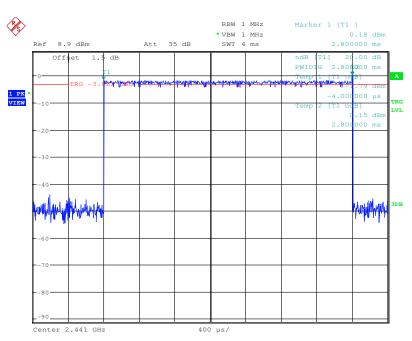


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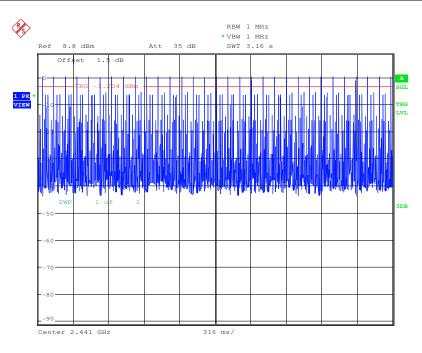


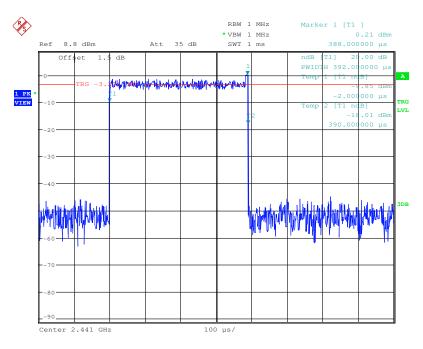


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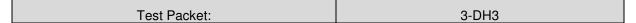


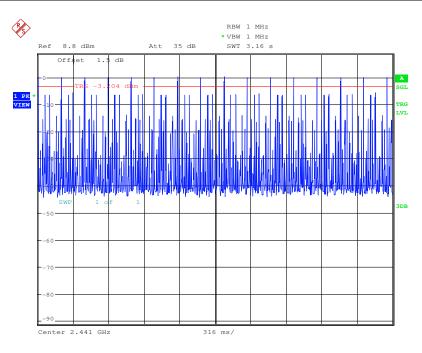


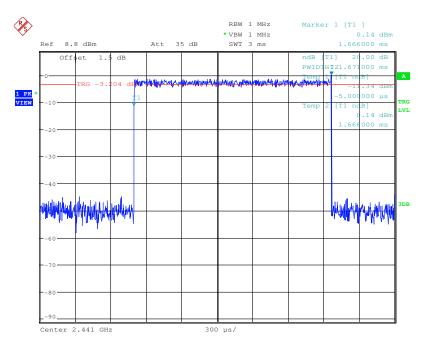


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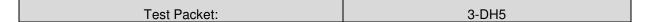


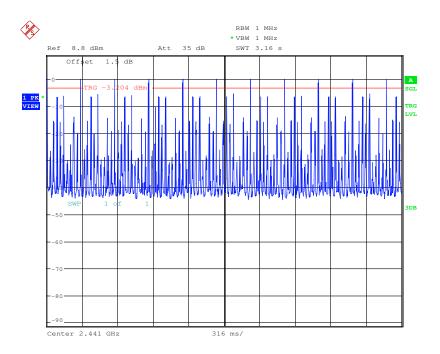


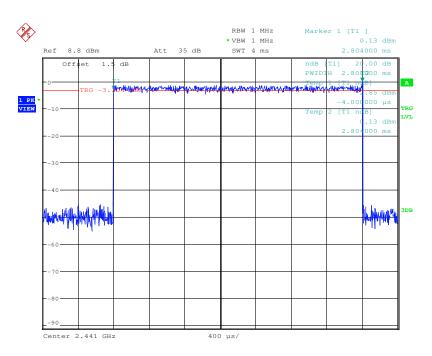


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#### 6.8 Band-edge for RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)						
Test Method:	ANSI C63.10:2013 Section 7.8.6						
Test Setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane						
	Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.						
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.						
Exploratory Test Mode:	Hopping and Non-hopping transmitting with all kind of modulation and all kind of data type						
Final Test Mode:	Through Pre-scan, find the DH1 of data type is the worst case of GFSK modulation type, 2-DH1 of data type is the worst case of $\pi/4DQPSK$ modulation type, 3-DH1 of data type is the worst case of 8DPSK modulation type.						
Instruments Used:	Refer to section 5.10 for details						
Test Results:	Pass						

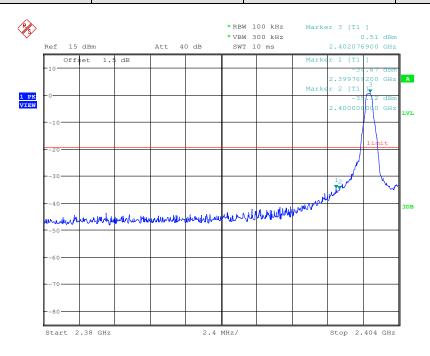


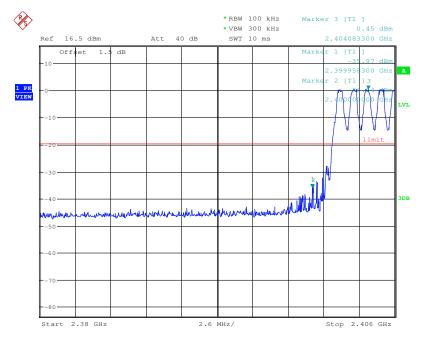
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#### Test plot as follows:

Test mode: GFSK Test channel: Lowest



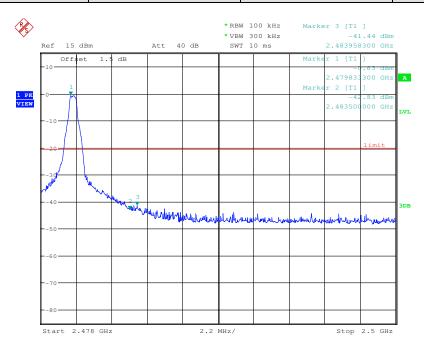


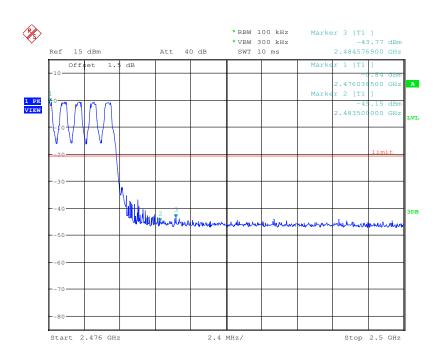


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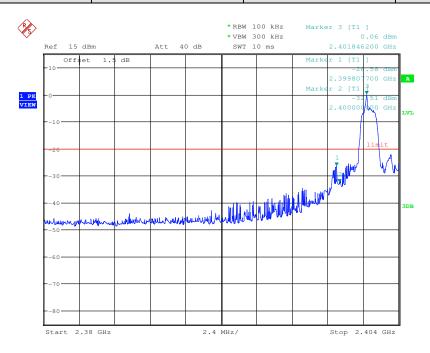


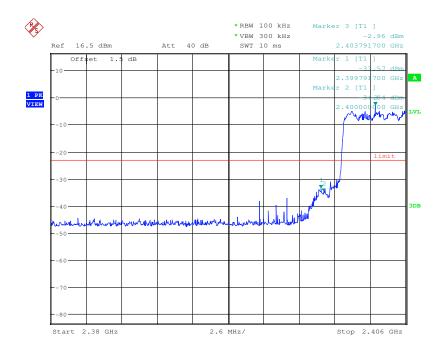


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Test mode: π/4DQPSK Test channel: Lowest



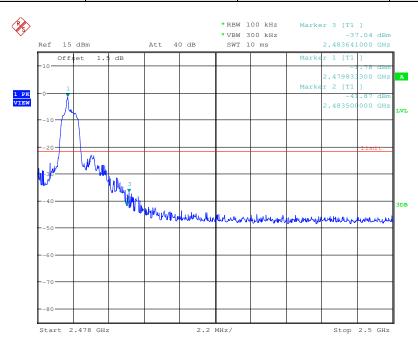


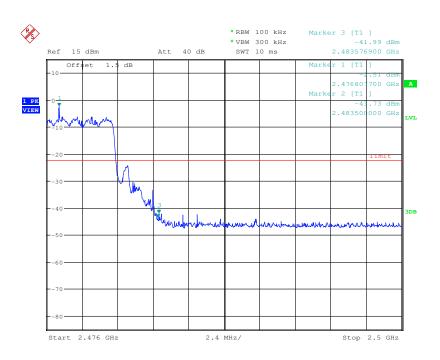


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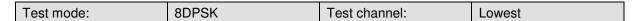


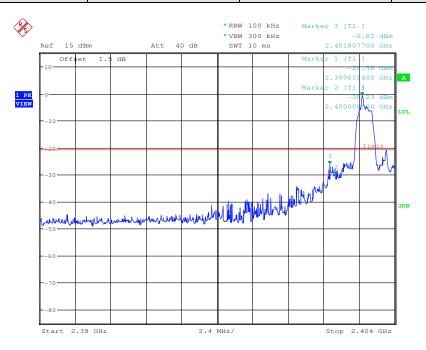


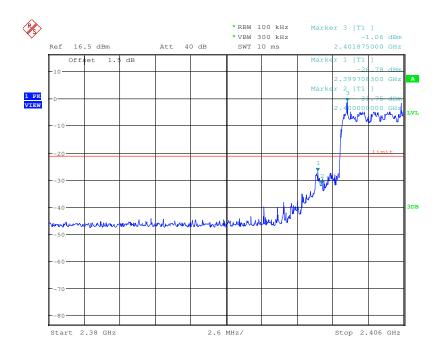


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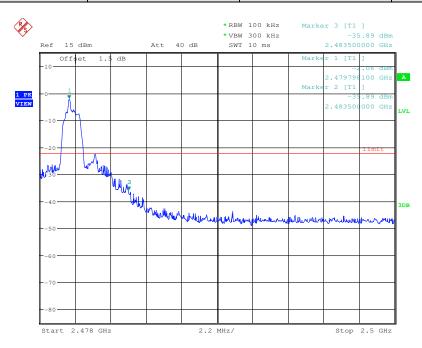


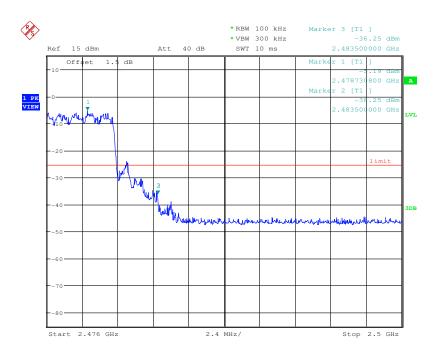


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Test mode: 8DPSK Test channel: Highest







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#### 6.9 Spurious RF Conducted Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)				
Test Method:	ANSI C63.10:2013 Section 7.8.8				
Test Setup:	Spectrum Analyzer  E.U.T  Non-Conducted Table  Ground Reference Plane				
	Remark: Offset the High-Frequency cable loss 1.5dB in the spectrum analyzer.				
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.				
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type				
Final Test Mode:	Through Pre-scan, find the DH1 of data type is the worst case of GFSK modulation type, 2-DH1 of data type is the worst case of $\pi/4DQPSK$ modulation type, 3-DH1 of data type is the worst case of 8DPSK modulation type.				
Instruments Used:	Refer to section 5.10 for details				
Test Results:	Pass				

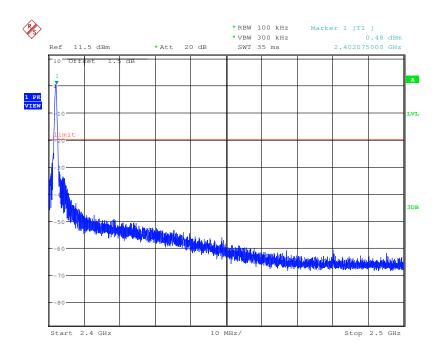


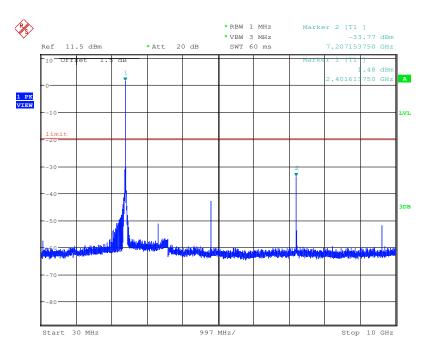
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#### Test plot as follows:

Test mode: GFSK Test channel: Lowest

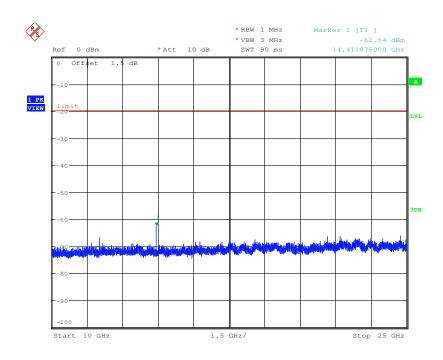


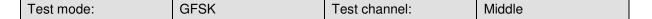


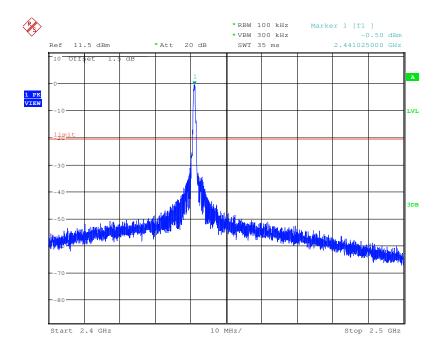


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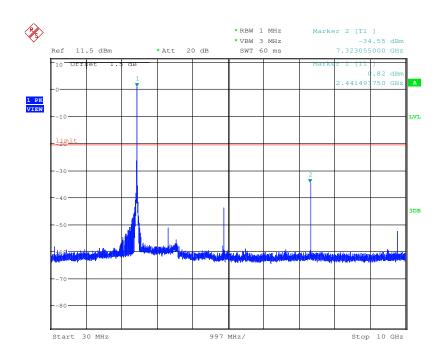


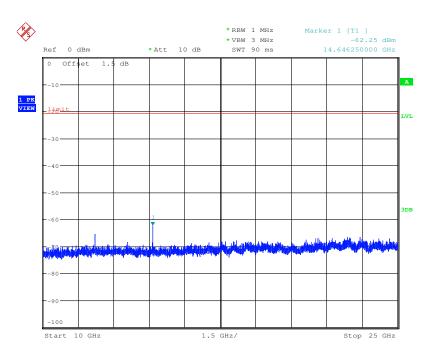




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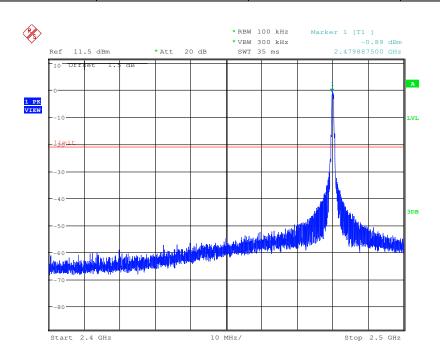


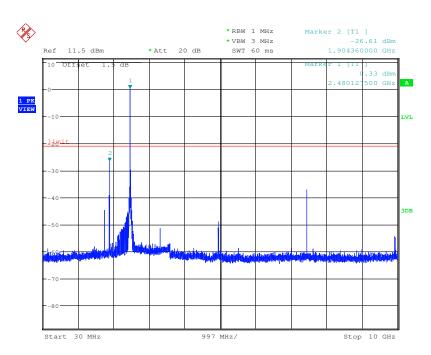


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Test mode: GFSK Test channel: Highest

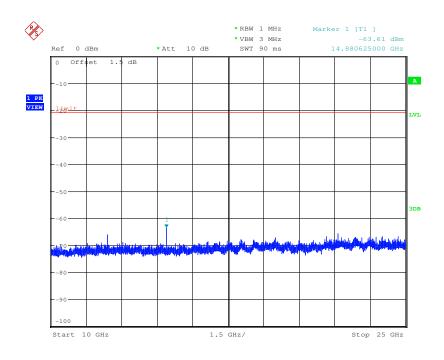


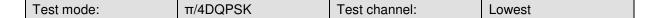


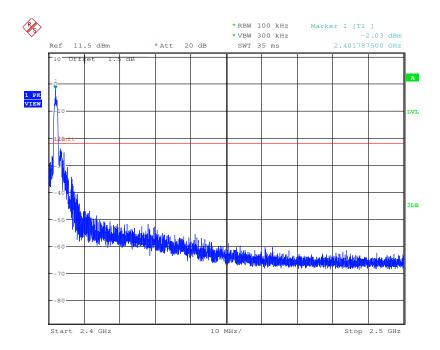


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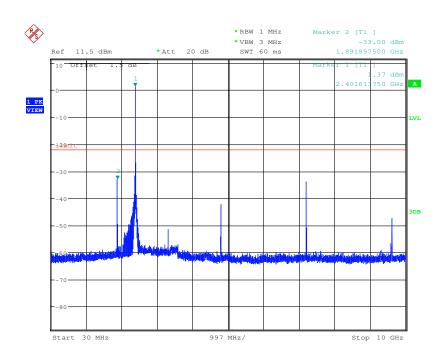


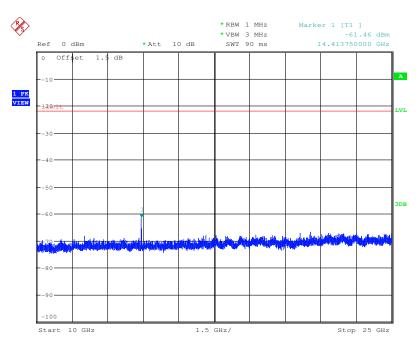




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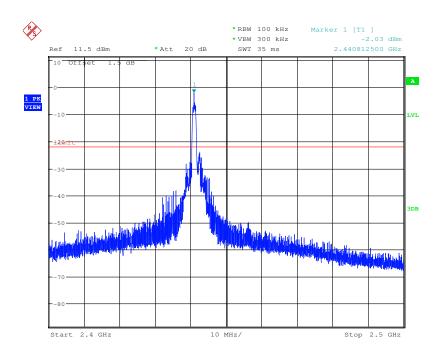


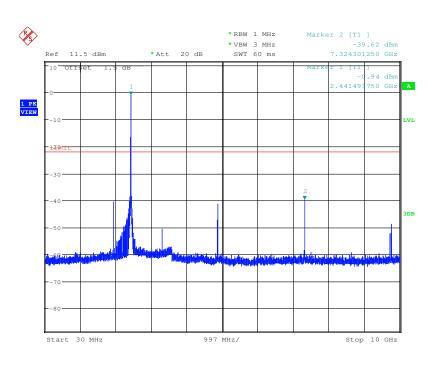


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Test mode: π/4DQPSK Test channel: Middle

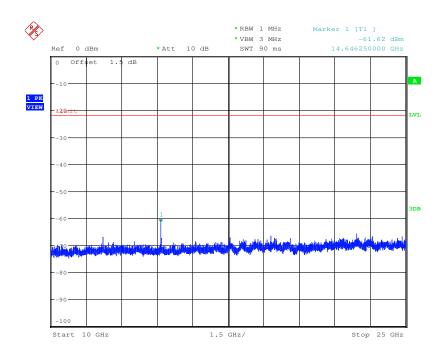




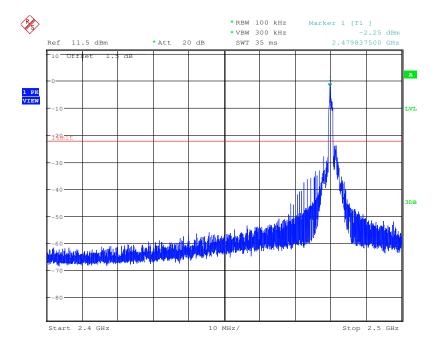


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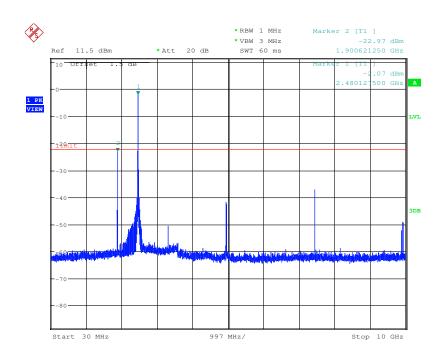


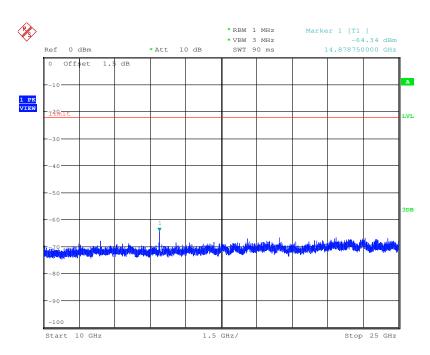




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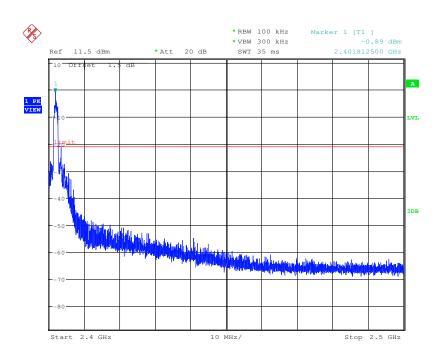


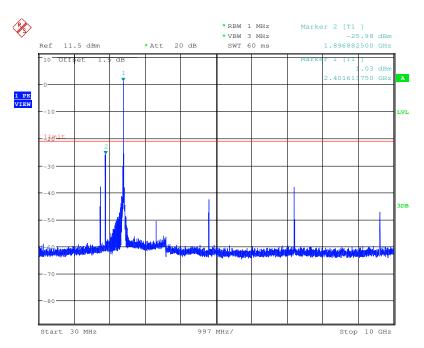


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Test mode: 8DPSK Test channel: Lowest

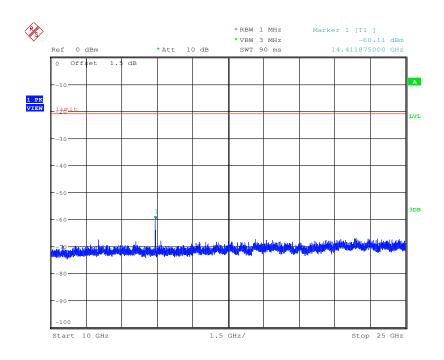


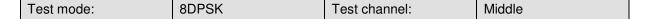


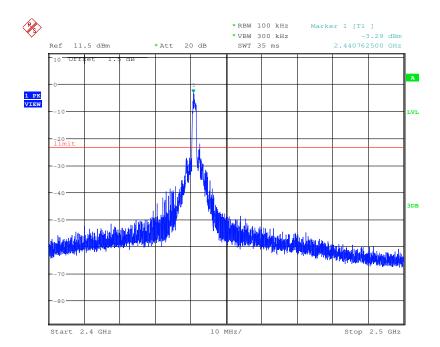


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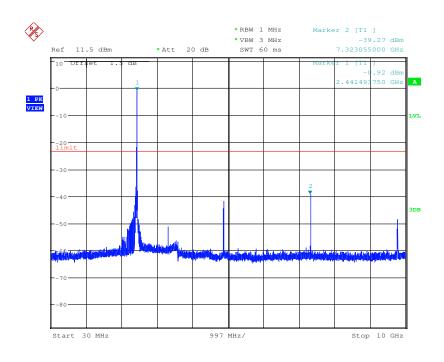


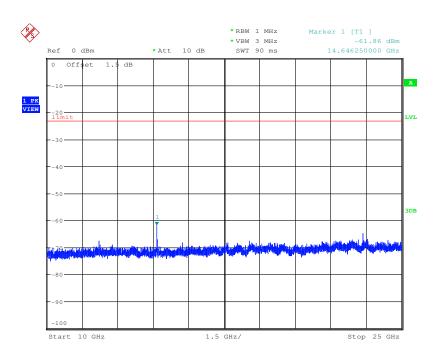




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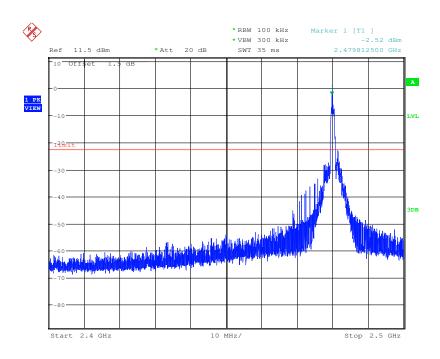


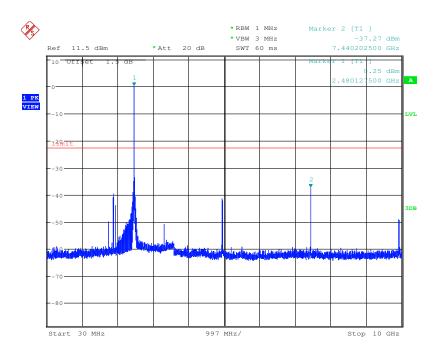


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Test mode: 8DPSK Test channel: Highest

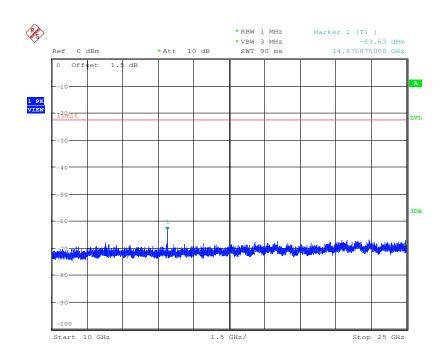






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#### Remark:

Use 100kHz RBW to determine the relative limit in the band 2.4GHz to 2.5GHz, and Use 1MHz RBW to measure spurious emissions in the band 30MHz to 10GHz and 10GHz to 25GHz. The sweep points set to 30001.



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#### 6.10 Other requirements Frequency Hopping Spread Spectrum System

#### Test Requirement: 47 CFR Part 15C Section 15.247 (a)(1), (h) requirement:

The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

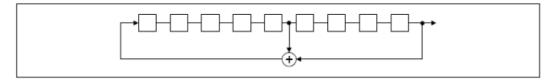
The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

#### Compliance for section 15.247(a)(1)

According to Bluetooth Core Specification, the pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage

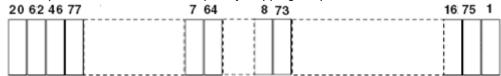
outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- Number of shift register stages: 9
- Length of pseudo-random sequence:  $2^9 1 = 511$  bits
- Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

According to Bluetooth Core Specification, Bluetooth receivers are designed to have input and IF bandwidths that match the hopping channel bandwidths of any Bluetooth transmitters and shift frequencies in synchronization with the transmitted signals.



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#### Compliance for section 15.247(g)

According to Bluetooth Core Specification, the Bluetooth system transmits the packet with the pseudorandom hopping frequency with a continuous data and the short burst transmission from the Bluetooth system is also transmitted under the frequency hopping system with the pseudorandom hopping frequency system.

#### Compliance for section 15.247(h)

According to Bluetooth Core specification, the Bluetooth system incorporates with an adaptive system to detect other user within the spectrum band so that it individually and independently to avoid hopping on the occupied channels.

According to the Bluetooth Core specification, the Bluetooth system is designed not have the ability to coordinated with other FHSS System in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitter.



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#### 6.11 Radiated Spurious Emission

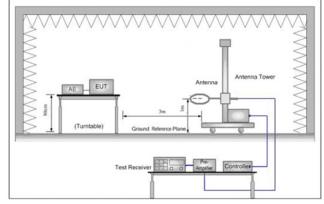
Test Requirement:	47 CFR Part 15C Section 15.209 and 15.205							
Test Method:	ANSI C63.10: 2013							
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)							
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark			
	0.009MHz-0.090MHz Pea		Peak	10kHz	z 30kHz	Peak		
	0.009MHz-0.090MHz		Average	10kHz	z 30kHz	Average		
	0.110MHz-0.490MHz         Peak           0.110MHz-0.490MHz         Average		Quasi-peak	10kHz	z 30kHz	Quasi-peak		
			Peak	10kHz	z 30kHz	Peak		
			Average	10kHz	z 30kHz	Average		
			Quasi-peak	10kHz	z 30kHz	Quasi-peak		
	30MHz-1GHz		Quasi-peak	100 kH	lz 300kHz	Quasi-peak		
	Above 1GHz		Peak	1MHz	3MHz	Peak		
			Peak	1MHz	: 10Hz	Average		
Limit:	Frequency		eld strength crovolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)		
	0.009MHz-0.490MHz	2	400/F(kHz)	-	-	300		
	0.490MHz-1.705MHz 24000/F(kHz) 1.705MHz-30MHz 30		-	-	30			
			-	-	30			
	30MHz-88MHz	30MHz-88MHz 100		40.0	Quasi-peak	3		
	88MHz-216MHz 150		43.5	Quasi-peak	3			
	216MHz-960MHz	200		46.0	Quasi-peak	3		
	960MHz-1GHz	500		54.0	Quasi-peak	3		
	Above 1GHz		500	54.0	Average	3		
	Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.							



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#### Test Setup:



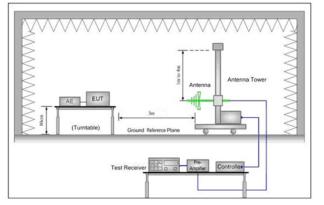


Figure 1. Below 30MHz

Figure 2. 30MHz to 1GHz

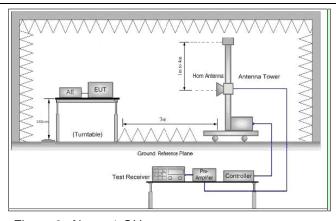


Figure 3. Above 1 GHz

#### Test Procedure:

- a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation
- c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- f. The test-receiver system was set to Peak Detect Function and Specified



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Exploratory Test Mode: Final Test Mode:	Bandwidth with Maximum Hold Mode.  g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.  h. Test the EUT in the lowest channel (2402MHz), the middle channel (2441MHz), the Highest channel (2480MHz)  i. Repeat above procedures until all frequencies measured was complete.  Non-hopping transmitting mode with all kind of modulation and all kind of data type  Transmitting mode  Through Pre-scan, find the 3-DH1 of data type and 8DPSK modulation is the worst case.  Transmitting mode  For below 1GHz part, through pre-scan, the worst case is the lowest channel.  Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

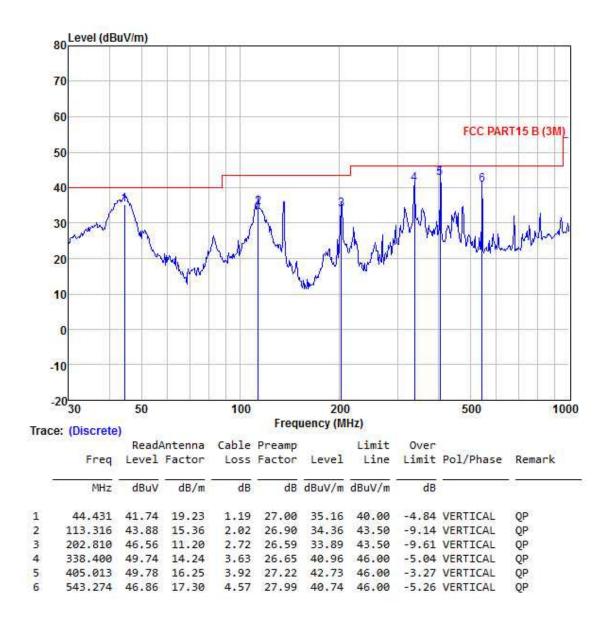


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#### 6.11.1 Radiated Emission below 1GHz

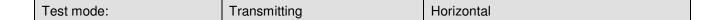
30MHz~1GHz (QP)		
Test mode:	Transmitting	Vertical

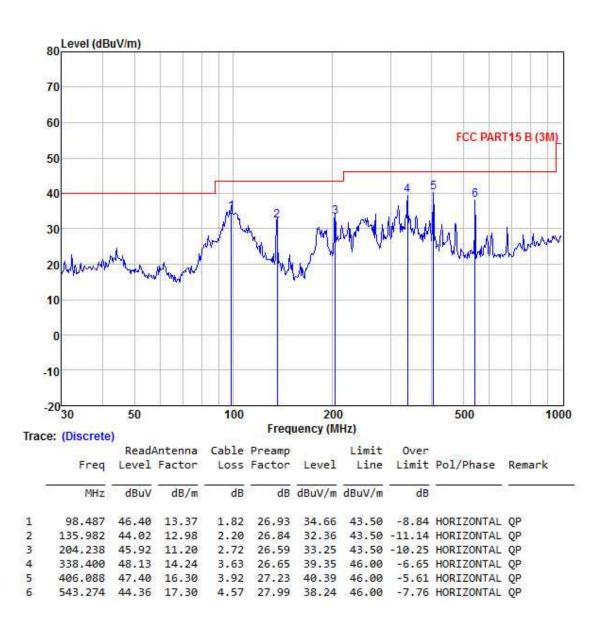




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#### 6.11.2 Transmitter Emission above 1GHz

Test mode:		8DPSK(3-DH	H1) Test	channel:	Lowest	Rema	ırk:	Peak
Frequency (MHz)	Antenna factors (dB/m)	Loss	Preamp Factor (dB)	Read Level (dBuV)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
3995.234	33.10	7.81	38.56	46.94	49.29	74.00	-24.71	Vertical
4804.000	34.10	8.87	38.75	52.04	56.26	74.00	-17.74	Vertical
6069.413	34.74	10.47	38.87	45.55	51.89	74.00	-22.11	Vertical
7206.000	35.60	10.68	37.64	48.93	57.57	74.00	-16.43	Vertical
9608.000	37.10	12.50	36.35	37.23	50.48	74.00	-23.52	Vertical
12566.850	37.87	14.34	37.72	38.48	52.97	74.00	-21.03	Vertical
3748.808	32.70	7.72	38.47	45.39	47.34	74.00	-26.66	Horizontal
4804.000	34.10	8.87	38.75	52.83	57.05	74.00	-16.95	Horizontal
6087.002	34.74	10.45	38.85	46.31	52.65	74.00	-21.35	Horizontal
7206.000	35.60	10.68	37.64	51.62	60.26	74.00	-13.74	Horizontal
9608.000	37.10	12.50	36.35	36.22	49.47	74.00	-24.53	Horizontal
12603.270	37.90	14.44	37.75	38.88	53.47	74.00	-20.53	Horizontal

Test mode:		8DPSK(3-DH	l1) -	Test channel:	Lowest	Rema	ırk:	Average
Frequency (MHz)	Antenna factors (dB/m)	Loss	Cab Los (dB	ss Level	Emission Level (dBµV/m)	Limit (dBµV/m)	Over limit (dB)	Polarization
4804.000	34.10	8.87	38.7	75 46.80	51.02	54.00	-2.98	Vertical
7206.000	35.60	10.68	37.6	64 41.80	50.44	54.00	-3.56	Vertical
4804.000	34.10	8.87	38.7	75 47.40	51.62	54.00	-2.38	Horizontal
7206.000	35.60	10.68	37.6	64 44.50	53.14	54.00	-0.86	Horizontal



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Test mode:	8	BDPSK(3-DF	l1) Te	st channel:	Middle	Rema	ırk:	Peak
Frequency (MHz)	Antenna factors (dB/m)	Cable Loss (dB)	Cable Loss (dB)	Reading Level (dBµV)	Emission Level (dBµV/m)	Limit (dBμV/m)	Over limit (dB)	Polarization
3858.877	32.96	7.76	38.51	45.32	47.53	74.00	-26.47	Vertical
4882.000	34.18	8.98	38.77	52.96	57.35	74.00	-16.65	Vertical
6069.413	34.74	10.47	38.87	46.10	52.44	74.00	-21.56	Vertical
7323.000	35.54	10.72	37.59	48.37	57.04	74.00	-16.96	Vertical
9764.000	37.10	12.58	36.14	40.15	53.69	74.00	-20.31	Vertical
12639.790	37.92	14.55	37.79	38.23	52.91	74.00	-21.09	Vertical
3814.467	32.91	7.75	38.49	45.92	48.09	74.00	-25.91	Horizontal
4882.000	34.18	8.98	38.77	55.50	59.89	74.00	-14.11	Horizontal
6069.413	34.74	10.47	38.87	46.01	52.35	74.00	-21.65	Horizontal
7323.000	35.54	10.72	37.59	53.01	61.68	74.00	-12.32	Horizontal
9764.000	37.10	12.58	36.14	39.96	53.50	74.00	-20.50	Horizontal
12639.790	37.92	14.55	37.79	38.10	52.78	74.00	-21.22	Horizontal

Test mode:		8DPSK(3-DF	l1)	Test	channel:	Middle Remark:		Average		
Frequency (MHz)	Antenna factors (dB/m)	Loss	Cal Lo: (dl	SS	Reading Level (dBµV)	Emission Level (dBµV/m)		mit ιV/m)	Over limit (dB)	Polarization
4882.000	34.18	8.98	38.	77	46.60	50.99	54	.00.	-3.01	Vertical
7323.000	35.54	10.72	37.	59	40.10	48.77	54	.00.	-5.23	Vertical
4882.000	34.18	8.98	38.	77	48.40	52.79	54	.00.	-1.21	Horizontal
7323.000	35.54	10.72	37.	59	44.90	53.57	54	.00	-0.43	Horizontal



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Test mode:		8D	PSK(3-DH	l1)	1) Test channel:		Highest		Remark:		Peak
Frequency (MHz)	Antenr factors (dB/m	s	Cable Loss (dB)	fac	amp ctor IB)	Reading Level (dBµV)	Emission Level (dBµV/m)		mit uV/m)	Over limit (dB)	Polarization
3825.521	32.93	3	7.75	38	.49	45.91	48.10	74	.00	-25.90	Vertical
4960.000	34.26	;	9.09	38	.78	51.20	55.77	74	.00	-18.23	Vertical
6140.076	34.77	'	10.38	38	.78	46.24	52.61	74	.00.	-21.39	Vertical
7440.000	35.60	)	10.77	37	.54	40.43	49.26	74	.00	-24.74	Vertical
9920.000	37.22		12.67	35	.93	38.69	52.65	74	.00	-21.35	Vertical
12639.790	37.92		14.55	37	.79	37.40	52.08	74	.00	-21.92	Vertical
3858.877	32.96	;	7.76	38	.51	45.66	47.87	74	.00	-26.13	Horizontal
4960.000	34.26	;	9.09	38	.78	53.95	58.52	74	.00.	-15.48	Horizontal
6069.413	34.74		10.47	38	.87	45.32	51.66	74	.00.	-22.34	Horizontal
7440.000	35.60	)	10.77	37	.54	44.66	53.49	74	.00	-20.51	Horizontal
9920.000	37.22		12.67	35	.93	39.55	53.51	74	.00	-20.49	Horizontal
12603.270	37.90	)	14.44	37	.75	38.35	52.94	74	.00	-21.06	Horizontal

Test mode:	: 8DPSK(3-DH1		l1)	Test channel:		Middle		Remark:		Average
Frequency (MHz)	Antenna factors (dB/m)	Cable Loss (dB)	Cab Los (dE	ss	Reading Level (dBµV)	Emission Level (dBµV/m)		mit uV/m)	Over limit (dB)	Polarization
4960.000	34.26	9.09	38.7	78	45.09	49.66	54	.00.	-4.34	Vertical
4960.000	34.26	9.09	38.7	78	47.69	52.26	54	.00.	-1.74	Horizontal

#### Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor

- 2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.
- 3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the above measurements were shown in the report.



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### 6.12 Restricted bands around fundamental frequency

Test Requirement:	Test Requirement: 47 CFR Part 15C Section 15.209 and 15.205									
Test Method:	ANSI C63.10: 2013									
Test Site:	Measurement Distance:	3m (Semi-Anechoic Chambe	r)							
Limit:	Frequency	Limit (dBuV/m @3m)	Remark							
	30MHz-88MHz	40.0	Quasi-peak Value							
	88MHz-216MHz	43.5	Quasi-peak Value							
	216MHz-960MHz	46.0	Quasi-peak Value							
	960MHz-1GHz	54.0	Quasi-peak Value							
	Above 1CLIz	54.0	Average Value							
	Above 1GHz	74.0	Peak Value							
Test Setup:										
Antenna Tower  Antenna Tower  Antenna Tower  Ground Reference Plane  Test Receiver  Test Receiver  Test Receiver  Test Receiver  Test Receiver  Test Receiver										
Figure 1. 30Ml	Iz to 1GHz	Figure 2. Abov	ve 1 GHz							



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Test Procedure:	<ul> <li>a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic camber. The table was rotated 360 degrees to determine the position of the highest radiation.</li> <li>c. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.</li> <li>d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</li> <li>e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</li> <li>f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</li> <li>g. Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel</li> <li>h. Test the EUT in the lowest channel, the Highest channel</li> <li>i. Repeat above procedures until all frequencies measured was complete.</li> </ul>
Exploratory Test Mode:	Non-hopping transmitting mode with all kind of modulation and all kind of
	data type
	Transmitting mode
Final Test Mode:	Through Pre-scan, find the 3-DH5 of data type and 8DPSK modulation is
	the worst case.
	Transmitting mode
	Only the worst case is recorded in the report.
Instruments Used:	Refer to section 5.10 for details
Test Results:	Pass

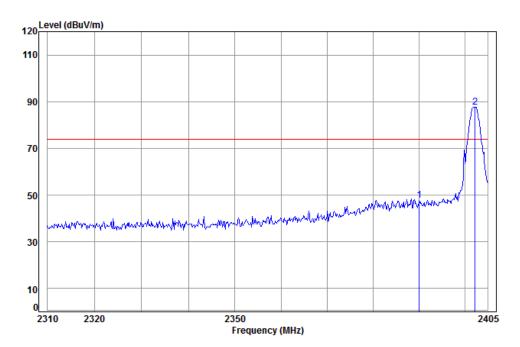


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#### Test plot as follows:

Worse case mode:	8DPSK (3-DH5)	Test channel:	Lowest	Remark:	Peak	Vertical



Condition: 3m Vertical Job No: : 4212CR

Mode: : 2402 Band edge

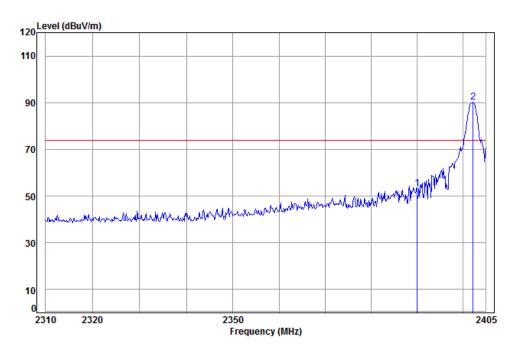
	Freq			Preamp Factor				
_	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 2 pp	2390.00 2402.29							



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8DPSK (3-DH5) Peak Worse case mode: Test channel: Lowest Remark: Horizontal



Condition: 3m Horizontal

Job No: : 4212CR

Mode: : 2402 Band edge Ant Docum

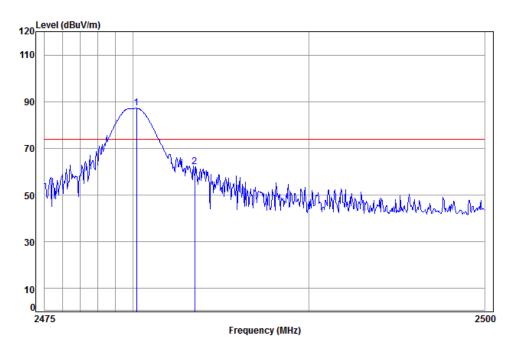
		capie	Ant	Preamp	Kead		Limit	over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
_	MHz	dB	dB/m	dB	dRuV	dRuV/m	dBuV/m	dB
	11112	ab	ub/ III	ub.	abav	abav, iii	abav/ III	ab
			00 57	20.44		53.34	74.00	20.66
1	2390.00	5.34	28.5/	38.11	57.54	53.34	74.00	-20.66
2 pp	2402.29	5.35	28.61	38.11	94.24	90.09	74.00	16.09



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Worse case mode: 8DPSK (3-DH5) Test channel: Highest Remark: Peak Vertical



Limit Over

Condition: 3m Vertical Job No: : 4212CR

Mode: : 2480 Band edge

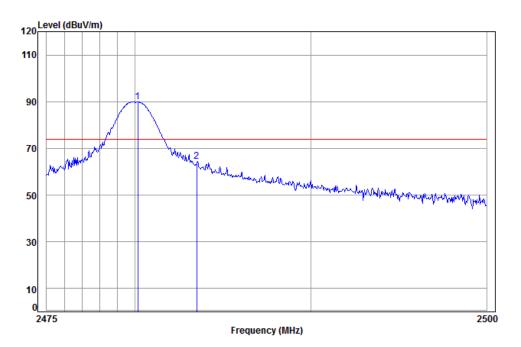
				Factor			Freq	
dB	dBuV/m	dBuV/m	dBuV	dB	dB/m	dB	MHz	-
							2480.20 2483.50	



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8DPSK (3-DH5) Test channel: Peak Worse case mode: Highest Remark: Horizontal



Condition: 3m Horizontal

Job No: : 4212CR

Mode: : 2480 Band edge

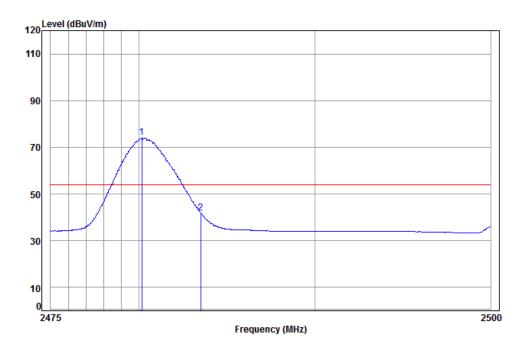
	Freq						Limit Line	
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
	2480.15 2483.50							



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Worse case mode: 8DPSK (3-DH5) Test channel: Highest Remark: Average Vertical



Condition: 3m Vertical Job No: : 4212CR

Mode: : 2480 Band edge

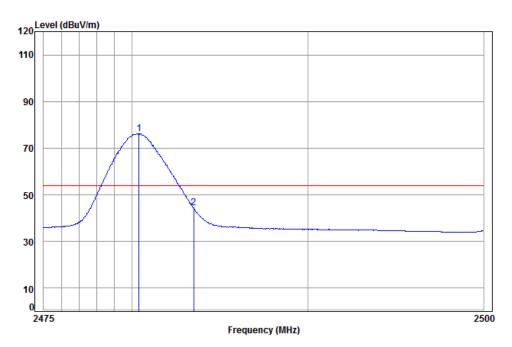
		Cable	Ant	Preamp	Read		Limit	Over
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp	2480.15	5.41	28.97	38.12	77.95	74.21	54.00	20.21
2	2483.50	5.41	28.98	38.12	45.64	41.91	54.00	-12.09



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Worse case mode: 8DPSK (3-DH5) Test channel: Highest Remark: Average Horizontal



Condition: 3m Horizontal

Job No: : 4212CR

Mode: : 2480 Band edge

				Preamp Factor			Freq	
dB	dBuV/m	dBuV/m	dBuV	dB	dB/m	dB	MHz	-
							2480.40 2483.50	pp

#### Note:

1

The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor



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### 7 Photographs - EUT Test Setup

**Test Model No.: TT-SK15** 

#### 7.1 Conducted Emission



### 7.2 Radiated Emission

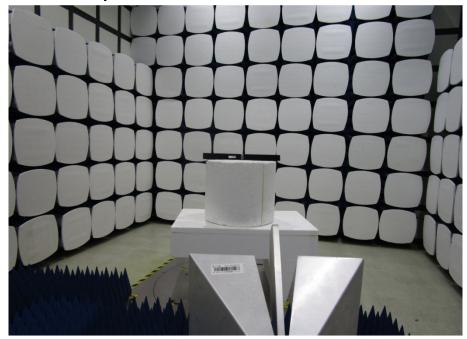




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### 7.3 Radiated Spurious Emission



### 8 Photographs - EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM160600212CR.